

within the study area will improve with the proposed project's elimination of median openings at five intersections and redesign of two intersections as interchanges.¹

2.2 Purpose of the Proposed Project

The purpose of the project is to improve the mobility of vehicular travel along US 70. The proposed improvements are needed to safely accommodate future traffic volumes along this section of the Strategic Highway Corridor. The proposed project would implement access management measures and the freeway concept consistent with the *US 70 Access Management Study* (NCDOT July 2005) and the *US 70 Master Plan* map for Johnston County (US 70 Corridor Commission July 2009). Secondary benefits from the proposed project include a reduction in the number of potential vehicular conflicts.²

2.3 Supporting Data

2.3.1 Existing Road Network

US 70 is a major east-west route in North Carolina and the primary east-west route in Johnston County. Just west of the project area, US 70 interchanges with I-95. US 70 is considered a principal arterial in the project area, according to the NCDOT classification system. US 70 is a National Highway System route.

Through the project area, US 70 is a four-lane, divided facility with exclusive left and right turn lanes in both directions at the signalized intersections with Firetower Road, US 70 Business-Peedin Street Extension, Creech's Mill Road-Peedin Road, and Stevens Chapel Road-Davis Mill Road. The US 70 intersection with US 70 Business-Peedin Street Extension includes dual left turn lanes in the westbound direction. There is also a westbound right-turn lane at Pine Valley Road. Control of access extends along US 70 in proximity to the intersection with US 70 Business. Existing right-of-way varies from 150 feet to 250 feet. The speed limit on this section of US 70 is 55 mph. There are no bicycle or pedestrian accommodations along US 70 in the project vicinity.

The section of US 70 through Smithfield is signed as US 70 Business and intersects with US 70 in the study area. The existing right-of-way is 150 feet wide. Creech's Mill Road-Peedin Road and Stevens Chapel Road-Davis Mill Road are the primary local north-south routes in the project area and provide access to the town of Pine Level from US 70 and areas south of the highway. Both are two-lane roadways, with a 21-foot pavement width in a 60-foot right-of-way. Pine Street-Pine Valley Road and Linden Street are local streets that do not provide connections to other roadways. Pine Street and Linden Street are

¹ Median closures at the following five intersections with US 70 will eliminate left-turning movements at these locations: Firetower Road (SR 2305), Creech's Mill Road-Peedin Road (SR 2309), Pine Street, Linden Street, and a private driveway east of Stevens Chapel Road-Davis Mill Road. Grade-separated interchanges are proposed at the intersections of US 70 with US 70 Business-Peedin Street Extension (SR 2308) and with Davis Mill Road-Stevens Chapel Road (SR 2310).

² Based on information provided by the Traffic Safety Unit, all of the crash rates (total, fatal, non-fatal, night, and wet) for this segment of US 70 are below the critical crash rate for a similar type facility (NCDOT 2010). For example, this segment of US 70 has a total crash rate of 96.33 crashes per 100 million vehicle miles (MVM) compared to the critical rate for a similar facility of 145.95 (NCDOT 2010). However, US 70 (segments and intersections) in the project area is included on the NCDOT's list of top locations for crashes in Johnston County.